

18. The catalyst as defined by Claim 12, wherein the catalyst has a specific surface of ~~up to about 360~~ <sup>350 to 370</sup> m<sup>2</sup>/g.

19. The reaction as defined by Claim 13, wherein the catalyst has a specific surface of ~~up to about 360~~ <sup>350 to 370</sup> m<sup>2</sup>/g.

20. The process as defined by Claim 14, wherein the catalyst has a specific surface of ~~up to about 360~~ <sup>350 to 370</sup> m<sup>2</sup>/g.

21. The process as defined by Claim 15, wherein the catalyst has a specific surface of ~~up to about 360~~ <sup>350 to 370</sup> m<sup>2</sup>/g.--

#### REMARKS

Reexamination and reconsideration of the application identified in caption, as amended, pursuant to and consistent with 37 C.F.R. § 1.112, and in light of the remarks which follow, are respectfully requested.

The various issues raised in the Official Action are discussed in the order in which they appear in the Official Action.

Claims 1-15 were rejected under 35 U.S.C. §112, second paragraph for the reasons set forth on page 2 of the Official Action. In order to overcome this ground of rejection, the claims have been revised to change the term "active" to --activated--. The

term "activated" is well understood in the art as evidenced by U.S. Patent No. 4,364,858 ("Goodboy") wherein the terminology "activated alumina" appears in Claim 1 thereof.

Claims 11-15 were rejected under 35 U.S.C. §112, fourth paragraph for the reasons set forth on page 2 of the Official Action. As suggested by the Examiner, Claims 11-15 have been rewritten in independent form.

Claims 1-5 and 13-15 were rejected under 35 U.S.C. §102(b) as allegedly being anticipated by Goodboy. This rejection is respectfully traversed for the following reasons.

The invention relates to novel catalysts for the purification/treatment of gases, especially of gaseous industrial effluents containing sulfur compounds, particularly to recover elemental sulfur therefrom, and more especially to novel catalysts for the Claus reaction and/or the hydrolysis of organic sulfur compounds (specification at page 1, lines 5-11). It has unexpectedly been determined that the extent of the sodium content of alumina is a primary factor in the deactivation thereof, especially by sulphate formation (specification at page 3, lines 11-14). According to the invention, a catalytically active alumina comprises sodium values wherein the sodium content of the alumina ranges from 1200 to 2700 ppm of  $\text{Na}_2\text{O}$  by weight thereof (specification at page 3, lines 19-26).

The figure of the drawing is a graph plotting the conversion of  $\text{CS}_2$  as a function of the  $\text{Na}_2\text{O}$  content in various alumina catalysts (specification at page 4, lines 2-4). In Example 2, catalysts having various  $\text{Na}_2\text{O}$  contents were prepared and the catalytic activity thereof was tested by contacting the catalysts with a gas having the composition set forth in the table on page 9 of the specification. As shown in the figure, the

conversion of  $\text{CS}_2$  was highly advantageous when the  $\text{Na}_2\text{O}$  range was limited to 1200 to 2700 ppm.

Goodboy discloses a Claus catalyst in the form of activated alumina in which the sodium oxide concentration is stated to broadly range from 0.1 to 2.5 wt% but with 0.50 to 2.5 wt% being preferred (column 3, lines 54-60 of Goodboy). Further, in Table 1 of Goodboy, various  $\text{Na}_2\text{O}$  contents are set forth but none of the contents recited in Table 1 falls within the claimed range. Accordingly, Goodboy clearly fails to anticipate the claimed invention.

Claims 1-15 were rejected under 35 U.S.C. §103 as allegedly being unpatentable over Goodboy in view of U.S. Patent No. 5,244,648 ("Dupin") or U.S. Patent No. 3,856,708 ("Carithers"). The reasons for the rejection are set forth on pages 3-5 wherein the Examiner takes the position that it would have been obvious "to have modified the process of Goodboy and add cellulose as taught by Dupin et al. and Carithers because cellulose is a known pore forming agent and desired pore sizes may be obtained." This rejection is respectfully traversed for the following reasons.

As explained above, Goodboy fails to disclose any examples falling within the claimed range for the  $\text{Na}_2\text{O}$  content. The figure of Applicants' specification shows that the claimed  $\text{Na}_2\text{O}$  content provides new and unexpected results with respect to  $\text{CS}_2$  conversion. In view of the showing of unexpected results in the specification, it is submitted that any prima facie case of obviousness based on Goodboy has been rebutted. As the secondary references (Dupin and Carithers) are only relied on for features other than the  $\text{Na}_2\text{O}$  content, no further discussion thereof is deemed necessary.

Conclusion

From the foregoing, further and favorable action in the form of a Notice of Allowance is believed to be next in order and such action is earnestly solicited.

Respectfully submitted,

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